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09/677,569	10/02/2000	Robert G. Schultz	X2009A	6875

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EXAMINER

HAN, QI

ART UNIT

PAPER NUMBER

2654

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21

Please find below and/or attached an Office communication concerning this application or proceeding.

11

Office Action Summary

Application No.

09/677,569

Applicant(s)

SCHULTZ, ROBERT G

Examiner

Qi Han

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

DETAILED ACTION

Information Disclosure Statement

1. The references listed in the Information Disclosure Statement submitted on 10/02/2001 have been considered by the examiner (see attached PTO-1449).

Claim Objections

2. Claims 7, 9 are objected to because of the following informalities:

Regarding claim 7, the limitation "said memory of said DSP chip" lacks clear antecedent basis in the claim(s), because the claim 1 says "a memory in electrical connection to said DSP, chip" that means the memory may not only belong to or physically reside in the DSP chip. Appropriate correction is required. The examiner interpreted the limitation as "the memory in electrical connection to said DSP chip", hereinafter.

Regarding claim 9, the limitation "said vocabulary" lacks antecedent basis in the claim(s). It appears to be dependent on claim 6, not claim 1, and this claim will be interpreted as a dependent claim on claim 6 hereinafter. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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3. Claims 20, 22 and 26 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding **claim 20**, it depends on claim 1 and discloses a personal digital assistant (PDA) motherboard. Since claim 1 suggests that the claimed motherboard has a PCI (peripheral component interconnect) bus that is normally used for connecting daughter boards or expanding the functioning devices, while PDA has small size and usually pursues higher integration of the circuit, so it is contradictory for designing PDA using PCI bus. Applicant fails to disclose detail description about the this issue in the application and fails to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. At this point, more support evidence and/or affidavit information are required.

Regarding **claim 22**, it depends on claim 1 and discloses a hand held computer motherboard; the rejection is based on the same reason as ^{claim 20}~~claim 20~~ since the claim has the same enablement problem (see above).

Regarding **claim 26**, it depends on claim 1 and discloses a computer motherboard that may be used in multiple devices, including cell telephones and wireless telephones; the rejection is based on the same reason as ^{claim 20}~~claim 20~~, since the claim has the same enablement problem (see above).

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5-8, 10, 17-19, 21, and 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambrecht et al. (USPN 5,951,664) hereinafter referenced as Lambrecht, in view of Hansen et al (USPN 5,640,490) hereinafter referenced as Hansen.

Regarding **claim 1**, Lambrecht discloses a computer system having a multimedia bus and including improved time slotting and bus allocation, for optimized real-time applications (abstract). Lambrecht further discloses that:

- a. a block diagram of motherboard 200 (Fig. 4) of the computer system comprises the CPU 102 (Fig. 1 and 4), the chipset logic 106, the main memory 110, the PCI bus 120, and the real-time or multimedia bus 130 (column 11, lines 39-44), input/output device 142-146 (Fig. 1) including multimedia and communication devices (column 8, lines 31-32) for processing periodic data including audio data (column 9, lines 1-2), wherein power interface is inherently included;
- b. the multimedia device 142 (Figs. 1 and 2) may also include a digital signal processor (DSP) 210 or other hardware circuitry for implementing the multimedia communication function (column 8, lines 56-59);

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- c. each of the multimedia devices 142-146 (Figs. 1 and 2) preferably includes the interface logic 170;
- d. main memory 110 (Fig. 1) (column 11, line 43) and/or multimedia memory 160 (Figs. 15 and 17) (column 21, line 3 and column 23, lines 5-6) and/or one or more ROMs or RAMs in the DSP (column 23, line 23) can be used for electrical connection to the DSP;
- e. a general purpose ~~the~~ DSP engine 210 (Fig. 15) that can be programmable to perform audio processing functions, includes one or more ROMs or RAMs which store microcode or instructions corresponding to video and audio processing instructions or commands, and in another embodiment, the DSP engine is not a general purpose DSP engine but is instead a device that is optimized for the performance of one or more multimedia or communications functions (column 23, lines 15-37);

which reads on the claimed "a computer motherboard architecture comprising: a computer motherboard possessing typical components including a CPU, a data bus, a power interface, and an audio input data pathway, said audio input data pathway connecting the audio input of the motherboard to the CPU; a DSP chip in the audio input data pathway; a PCI-to-DSP bridge interfacing between said DSP chip and the bus on the computer motherboard; a memory in electrical connection to said DSP chip; a command and control speech engine residing in said memory of said DSP chip." But, Lambrecht fails to specifically disclose a "speech engine" for processing the audio data. However, the examiner contends that the concept of providing a speech recognition mechanism (herein equivalent to the "speech engine") for the audio data was well known, as taught by Hansen.

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In the same field of endeavor, Hansen discloses a user independent, real-time speech recognition system and method, for identifying the phoneme sound types that are contained within an audio speech signal (abstract). Hansen further discloses that a speech recognition system at 10 (Figs. 1-2) includes multi-processor means for processing the audio speech signal (column 4, line 34 through column 6, line 3), and that the spoken word may be passed as command to the operating system or application (column 27, lines 48-49), such as a wordprocessor (column 27, line 47).

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht by specifically providing a speech recognition mechanism as a speech engine, as taught by Hansen, for the purpose of offering more real-time applications such as speech recognition and synthesis (Lambrecht: column 1, lines 46-50) and/or more widely marketable features for the product.

Regarding **claim 2**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the multimedia devices (Figs. 1 and 2) may be any of various types of input/output devices (column 8, lines 22-23), and the multimedia device may also include a digital signal processor (DSP) 210 (column 8, lines 56-57) for processing periodic data including audio data (column 9, lines 1-2), which suggests that input audio data including speech can be processed prior to the CPU execution, which reads on the claimed "said DSP serves as the preprocessor of all speech input prior to execution of instructions by the CPU to process the speech input."

Regarding **claim 3**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht fails to specifically disclose that "said DSP is operable to be

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dynamically set by a user in either a continuous speech mode or a command and control mode.”

However, the examiner contends that the concept of providing a mechanism for dynamically setting a speech data mode or a command mode was well known, as taught by Hansen.

Hansen further discloses that if the Command Processor (Figs 11) is not in a command mode (herein equivalent to “command and control mode”), then the word will be sent directly to the current application as text (column 28, lines 9-11), which suggests that at least two modes the system can be dynamically set, command mode and speech data mode (herein equivalent to the “continuous speech mode”)(also see Fig. 4).

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht by specifically providing a mechanism for dynamically setting a speech data mode or a command mode, as taught by Hansen, for the purpose of offering more real-time applications such as speech recognition (Lambrecht: column 1, lines 46-50) and/or more widely marketable features for the product.

Regarding **claim 5**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht fails to specifically disclose that “said DSP chip is operable to convert said audio input into phonemes.” However, the examiner contends that the concept of providing a DSP for converting audio input into phonemes was well known, as taught by Hansen.

Hansen further discloses that the sound recognition processor 16 (Fig. 1) that includes DSP circuitry 18 (column 6, line 50 through column 7, line 7), extracts the corresponding phoneme sounds (column 5, lines 30-31).

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Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht by specifically providing a DSP for converting audio input into phonemes, as taught by Hansen, for the purpose of promoting more real-time applications such as speech recognition (Lambrecht: column 1, lines 46-50) and/or offering more widely marketable features for the product.

Regarding **claim 6**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht fails to specifically disclose that "said speech engine includes a vocabulary of speech terms which are associated with specific instructions or contextual environments." However, the examiner contends that the concept of providing a vocabulary in a speech recognition system was well known, as taught by Hansen.

Hansen further discloses that the sound recognition processor 16 (Fig. 1) that once the phonetic stream is identified, the system (herein equivalent to speech engine) is capable of recognizing a large vocabulary of words and phrases (column 28, lines 66-67). Hansen also discloses that a speaker-dependent system must be "trained" to a single speaker's voice by obtaining and storing a database of patterns for each vocabulary word uttered by that particular speaker, wherein the vocabulary size is limited by the specific vocabulary contained in the database (column 1, lines 52-60). Furthermore, Hansen discloses that the spoken word input as text directly into an application, such as a word-processor, or conversely, may be passed as a command to the operation system or application (column 27, lines 46-49), which reads on the claimed "speech terms which are associated with specific instruction or contextual environment."

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Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht by specifically providing a DSP for converting a vocabulary in a speech recognition system, as taught by Hansen, for the purpose of promoting more real-time applications such as speech recognition (Lambrecht: column 1, lines 46-50) and/or offering more widely marketable features for the product.

Regarding **claim 7**, under best understood in view of the claim objection (see above), Lambrecht and Hansen disclose everything claimed, as applied above (see claim 6). Since Lambrecht discloses that the DSP engine includes one or more ROMs or RAMs, as stated above (see claim 1), the combination of Lambrecht and Hansen under the same condition in claim 6, is inherently capable of storing a vocabulary in the memory of DSP engine, which reads on the claimed "said vocabulary of speech terms resides in said memory of said DSP chip", wherein the limitation of "said memory of said DSP chip" is interpreted as "the memory in electrical connection to said DSP chip."

Regarding **claim 8**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 6). Since Lambrecht discloses that the DSP is programmable and includes one or more ROMs or RAMs (column 23, lines 15-37), as stated above (see claim 1), the combination of Lambrecht and Hansen under the same condition in claim 6, is inherently capable of defining a vocabulary by a user and storing the vocabulary in the ROM (herein interpreted as strict mode) or in the RAM (herein interpreted as active mode), which reads on the claimed "said vocabulary of speech terms is able to be defined by a user, either in a static or active mode."

Regarding **claim 10**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Since Lambrecht discloses that the system includes multimedia memory

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160 (Figs. 15 and 17) (column 21, line 3 and column 23, lines 5-6), as stated above (see claim 1), the combination of Lambrecht and Hansen under the same condition in claim 6, is inherently capable of residing a software-based speech engine in multimedia memory for the DSP preprocessing, which reads on the claimed "said DSP chip is operable to perform preprocessing for a software-based speech engine residing elsewhere on a computer."

Regarding **claim 17**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures, comprising motherboard, are personal computer systems that includes various user-operable features (column 1, lines 43-66), which suggests that the corresponding motherboard also has those features, which reads on the claimed "said computer motherboard is a user-supported computer motherboard."

Regarding **claim 18**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 17). Lambrecht further discloses that the computer architectures are personal computer systems that include various user-operable features (column 1, lines 43-66), which reads on the claimed "user-supported computer". But, Lambrecht fails to specifically disclose "a voice-activated user-supported computer." However, the examiner contends that the concept of providing a voice-activated function for a personal computer was well known, as taught by Hansen.

Hansen further discloses that if the Command Processor (Figs 11) is not in a command mode then the word will be sent directly to the current application as text (column 28, lines 9-11), wherein the command mode is a equivalently interpretation of voice-activated function, used by user.

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Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht by specifically providing a voice-activated function for a personal computer, as taught by Hansen, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claims 19 and 21**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures, comprising motherboard, are personal computer systems (column 1, lines 43-66) that inherently include the conventional portable computers and desktop computers, which reads on the claimed “a portable computer motherboard” (claim 19) and “a desktop computer motherboard” (claim 21).

Regarding **claim 23**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures comprising motherboard, are personal computer systems (column 1, lines 43-66), and that the system includes a multimedia bus and various types of multimedia devices including variety of video devices and sound devices (column 8, lines 16-32), so that the motherboard is suitable for video gaming system, which reads on the claimed “said computer motherboard is a video gaming system computer motherboard.”

Regarding **claim 24**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures comprise motherboard (column 11, line 38) and a multimedia bus and various types of multimedia devices and communication devices (column 8, lines 22-24), so that the motherboard is fully capable of

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functioning for computing and communication devices, which reads on the claimed "said computer motherboard is a computing and communications device computer motherboard."

Regarding **claim 25**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures, comprising motherboard, are personal computer systems that include various user-operable features (column 1, lines 43-66), wherein personal computer inherently includes the conventional portable computers, laptop computers, desktop computers, and the computer with customized hardware and software applications, which reads on the claimed "said computer motherboard is a component of a member selected from the group consisting of user supported computers, laptop computers, desktop computers, portable computers and mixtures thereof."

Regarding **claim 26**, under best understood in view of the claim rejection under U.S.C. 112 2nd paragraph (see above), Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Lambrecht further discloses that the computer architectures, comprising motherboard, are personal computer systems that include various user-operable features (column 1, lines 43-66), wherein personal computer inherently includes the conventional portable computers, and that the compute architectures comprise a multimedia bus and various types of multimedia devices and communication devices (column 8, lines 22-24), so that the motherboard is fully capable of functioning for communication devices, which satisfies the limitation of the claimed "said computer motherboard is a component of a member selected from the group consisting of portable computers, communication means both hard wired and wireless and mixtures thereof."

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Regarding **claim 27**, it discloses a method, which corresponds to the apparatus of claims 1, 3 and 5. The method is obvious in that it simply provides functionality for the structure found in claims 1, 3 and 5.

Regarding **claim 28**, the rejection is based on the same reason of the rejection for claim 1, because claim 28 has the same or similar limitation(s) as claim 1.

5. Claims 4, 9, 12-16, 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lambrecht in view of Hansen and further in view of well known prior art (MPEP 2144.03).

Regarding **claim 4**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose "said audio input data pathway comprises a microphone input, means for digitizing an audio input". However, the examiner takes official notice of the fact that it was well known in the art to provide a microphone input and means for digitizing an audio input.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a microphone input and means for digitizing an audio input, for the purpose of promoting more real-time applications such as speech recognition and (Lambrecht: column 1, lines 46-50) and/or offering more widely marketable features for the product.

Regarding **claim 9**, under best understood in view of the claim objection (see above), Lambrecht and Hansen disclose everything claimed, as applied above (see claim 6). But, Lambrecht and Hansen fail to specifically disclose that "said vocabulary of speech terms is refreshed by the CPU based upon the context of an application running on a host processor."

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However, the examiner takes official notice of the fact that it was well known in the art to provide a refreshed vocabulary based on an application.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a refreshed vocabulary based on an application, for the purpose of offering more widely marketable features for the product.

Regarding **claim 12**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose that “said DSP chip is operable to perform noise cancellation functions.” However, the examiner takes official notice of the fact that it was well known in the art to provide noise cancellation functions operable for DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing noise cancellation functions operable for DSP, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claim 13**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose that “said DSP chip is operable to function in a command and control speech mode.” However, the examiner takes official notice of the fact that it was well known in the art to provide a command and control speech mode operable for DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a command and

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control speech mode operable for DSP, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claim 14**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose that “said DSP chip is operable to function in a continuous speech mode.” However, the examiner takes official notice of the fact that it was well known in the art to provide a continuous speech mode operable for DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a continuous speech mode operable for DSP, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claim 15**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose that “said DSP chip is operable to function in a mobile phone mode.” However, the examiner takes official notice of the fact that it was well known in the art to provide a mobile phone function operable for DSP operable for DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a mobile phone function operable for DSP, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claim 16**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). But, Lambrecht and Hansen fail to specifically disclose that “said DSP is

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operable to function in a language translation mode.” However, the examiner takes official notice of the fact that it was well known in the art to provide a language translation function operable for DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing a language translation function operable for DSP, for the purpose of offering more widely marketable features for real-time applications.

Regarding **claim 29**, the rejection is based on the same reason of the combined rejections for claims 1,3 and 4, because claim 29 has the same or similar limitation(s) as claims 1, 3 and 4.

Regarding **claim 30**, Lambrecht, Hansen and well-known prior art disclose everything claimed, as applied above (see claim 29). Lambrecht further discloses that the computer system comprises main memory 11 (fig. 1), memory bus 108, bridge 106, and arbitration logic 107 (column 7, lines 40-55), which provides hardware components for storage and communication. In addition, under the same combination condition as stated above (see claim 29, also see claims 1 and 3), Hansen suggests that the command processor is a portion of the software program for implementing certain algorithm to determine and control identified word or phrase (column 10, lines 12-19), which is incorporated with high level application and is interpreted as “operable” for user control. This reads on the claimed “said control means comprises a computer software program residing in a storage device in electrical communication with said motherboard which is operable to be controlled by a user.”

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6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lambrecht in view of Hansen, and further in view of Chang et al. (US 6,330,247) hereinafter referenced as Chang, and Oh et al. (USPN 6,275,806) hereinafter referenced as Oh.

Regarding **claim 11**, Lambrecht and Hansen disclose everything claimed, as applied above (see claim 1). Since the combined system, as stated above (claim 1), have various multimedia input/output devices and can pass the spoken word as command to the operating system or application such as the word processor, which ~~is~~^{is} inherently includes menu selection functions such as operating system provided windowing menu, or application provided object-oriented menu. Lambrecht and Hansen also disclose the speech recognition and the command mode, which inherently includes speech to signal conversion and voice control respectively. But, Lambrecht and Hansen fail to specifically disclose that "mobile phone audio functions comprising voice activated dialing and noise cancellation". However, the examiner contends that the concept of providing functions of voice activated dialing and noise cancellation for a mobile device was well known, as taught by Chang and Oh.

In the same field of endeavor, Chang discloses communication protocol between a communication device and an external accessory. Chang further discloses voice dialing by using DSP 116 (Fig. 1) (column 8, lines 24-39), which is a selected portion of communication device 100, such as a portable cellular telephone, PCS telephone, PDA or the like (column 3, lines 12-14).

In addition, in the same field of endeavor, Oh discloses a system and method for improved speech acquisition for hands-free voice telecommunication in a noise environment.

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Oh further discloses adaptive noise canceller (ANC) for speech recognition (column 4, lines 2-23), which can be implemented by a DSP.

Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify Lambrecht and Hansen by specifically providing functions of voice activated dialing and noise cancellation for a mobile device, as taught by Chang and Oh, for the purpose of offering more widely marketable features for the product.

Conclusion

7. Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703)-872-9314

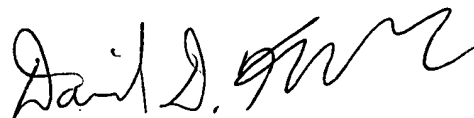
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA. Sixth Floor (Receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (703) 305-5631. The examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:30 p.m. and Friday from 8:00 a.m. to 12:00 a.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold, can be reached on (703) 305-4379.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

QH/qh
April 18, 2003



DAVID D. KNEPPER
PRIMARY EXAMINER